Southwestern AVIATION

Flight magazine

April, 1934

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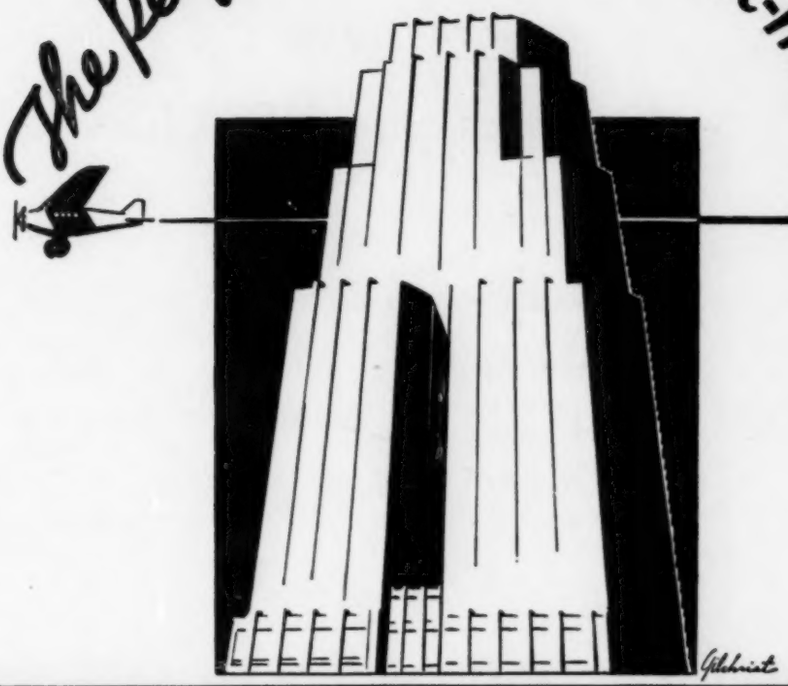

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HOTEL BILTMORE

James E. Barrett Managing Director. Oklahoma City

For convenience, comfort and excellent service . . . travel by air. For comfortable and luxurious surroundings and perfect service at sensible prices . . . stop at Hotel Biltmore, the "perfect host of the air-minded." . . . . . .

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Fort Worth has become one of the country's great aviation centers and the Fort Worth Chamber of Commerce most cordially welcomes a publication which we believe and trust will become the voice of the aviation industry of the Southwest

+ + +

FORT WORTH CHAMBER OF COMMERCE

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Gen. Mgr.

Editorial Comment

The widely publicized diseases in the aeronautical realm are not as incipient as the press would have us believe. They are rooted in the past and are not of sudden or spontaneous growth. By means of a crisis these diseases have been universally advertised.

At the present time all of the troubles are being professionally diagnosed in Washington. And the legitimate doctors are fast weeding out the quack manipulators of public opinion, partisan politicians, and a few of aviation's wiseacres who have injected much discord into the unpleasant situation.

Among the commercial, military and civilian sectors of the southwestern aeronautical population, a growing confidence in the men at the controls is being displayed. Already we know that the air mail is to be restored to commercial aviation, that the serious problems confronting the Air Corps are being studied and solved, and that a carefully planned movement to stimulate private ownership of aircraft is very near to realization.

Reflected, too, is a demand for expediency in restoring harmony to all branches of the aviation family by the advancement of a sound governmental policy for future growth and expansion. The existing curable ills do not authorize long delay.

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Ideas which have come forth as a result of the annulment of air mail contracts have been legion. Many are appropriately consigned to the discard. Sound suggestions, however, have been made for the development of aviation, and particularly notable are ideas advanced by the Independent Aircraft Operators of the United States.

The ideas and suggestions made by this body have taken the form of resolutions addressed to the President.

Among the suggestions worthy of note are:

1. That the Government adopt a plan for having its appropriate finance agency advance money on the holdings of the Independents — through the medium of direct loans to "any and all independent commercial aircraft operating agencies, including schools—loans to be based on proper collateral whether that collateral be real estate or equipment."

2. That all applicants for Army or Navy or Marine Corps flight training be required to be holders of a Department of Commerce private license. This requirement would give the aircraft operators and private aeronautics instructors recognition from the military services which commercial aviation has never enjoyed heretofore. The unfit would thus be eliminated before entering the expensive official Government training field; and the intelligence of aeronautics will have been widely disseminated among potential private owners of aircraft. The graduates of West Point and Annapolis would of course be exempt from this requirement. Holders of Department of Commerce transport licenses should be given preference in making the appointments.

3. "That the United States Government be authorized to pay twenty-five per cent of the tuition cost (cost to the Government not to exceed ten dollars per hour of flight instruction) for any Private, Limited Commercial, or Transport student who enrolls for his training; and providing further that such student be between the ages of 18 and 25, be a four-year high school graduate, and be physically qualified under the Department of Commerce Rules and Regulations."

Suggestions 2 and 3 are indeed radical when we consider the preference and practice of the Army in developing raw material for military flight instruction. Yet the innovation is feasible and if properly administered would effect an actual saving to the Federal Government in military training, and at the same time, result in direct benefit to commercial operators and flight instructors. It is well known that the cost to the Government of official flight training is unnecessarily expensive in view of the great number of "wash-outs" in the official training schools. The Government's aid in fostering a flying population is now restricted to those who actually receive appointments as flying cadets. It is in the interest of the Government both for civil and military reasons that a maximum number of physically qualified young men possessing a reasonable requirement of general education should be familiar with aircraft and the art of aeronautics. By requiring a private license from the Department of Commerce before a young man becomes eligible for appointment to a service training school, the intelligence of aeronautics would receive a substantial distribution. It cannot be emphasized too much that it is entirely proper for the Government to render substantial financial assistance in cultivating such distribution of the arts of the air.

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Airport markings and identifications are almost universally available for the day flier. Night lighting equipment, however, is sorely lacking. Landing fields in the United States as of March 1st number 2,191. Of this number only 639 are wholly or partially lighted. These figures include all landing fields — commercial, municipal, state, private, Army, Navy, and the Department of Commerce intermediate fields. O fthe 1,213 commercial and municipal fields only 327—less than one-third—have night lighting equipment, and in many instances the equipment is antiquated, inadequate, or unused in the present-day desire to save money.

This condition definitely retards night flying. Not only does it jeopardize the safety of pilots and craft, but the time lost in searching for the landing field creates a situation unwelcome to the average plane owner who for business or for pleasure finds it more convenient or even necessary to fly at night.

It is hoped that efficient night lighting equipment comes into more general usage, and that a standardized system, for identifying landing fields from great lateral distances and from high altitudes, will be developed, thereby augmenting the lighted airways and the radio beam in bringing the night flier safely and quickly to the desired landing field.

THE COVER:—

RANDOLPH FIELD
FROM 6000 FEET

OFFICIAL U. S. ARMY PHOTO
20th PHOTO SECTION

NRA MEMBER U.S. WE DO OUR PART

Southwestern
AVIATION

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I take pleasure in extending a most cordial welcome to SOUTHWESTERN AVIATION, the newest aeronautical magazine, and one which has before it an opportunity for notable service to the airmen and other air-minded folk in its territory. Progress in aeronautics always has depended upon wide dissemination of reliable information. In undertaking a share of this responsibility, SOUTHWESRERN AVIATION is making a definite and valuable contribution to the further development of the science and art of flying, and I hope that its endeavors will be rewarded with a high measure of success.

EUGENE L. VIDAL,
Director of Aeronautics,
United States Department of Commerce.

It gives me pleasure to extend my best wishes to the new publication, SOUTHWESTERN AVIATION, which, I understand, is about to make its bow in the field of aeronautical publications.

Publications of this character can perform a service of lasting benefit to aviation as a whole, and I hope that its efforts along that line will be crowned with success.

B. D. FOULOIS,
Major General, Air Corps,
Chief of the Air Corps.

The great Southwest is a wonderful field for aviation and due to the great distances and many landing fields it lends itself to private ownership of aircraft.

I am pleased to know that a publication to be known as SOUTHWESTERN AVIATION is being launched to promote flying activities, and I send my best wishes for success to this publication.

J. E. FECHET, MAJ. GEN. U. S. A. (RET.),
Former Chief of the Air Corps.

WASHINGTON

P. T. NORTON, JR.

COMES the good word that a *new* grade of pilot license has been included among amendments to regulations announced by Aeronautics Branch of Department of Commerce.

Changes in the air commerce regulations of the Department of Commerce of far-reaching importance to private flying in the United States, have been announced by Eugene L. Vidal, Director of Aeronautics.

These changes include:

Creation of an amateur pilot's license with a prerequisite of twenty-five hours solo flying time; establishment of new ratings for Department of Commerce approved flying schools to provide for the new grade of license; provision that physical examinations for renewals of student, amateur, and private pilot licenses may be taken from any accredited doctor of medicine acceptable to the Department of Commerce; and enlargement of the privileges of private and limited commercial pilots to the end that they may carry guests, executives or employees of companies employing them, and may demonstrate aircraft to prospective purchasers, if not for hire. The changes also set forth that student pilots are no longer permitted to make landings at airline terminals or airports where flying meets or air races are in progress unless they are based at such points.

Major J. Carroll Cone, Assistant Director of Aeronautics in charge of air regulation, has been working for several months to find means of making the regulations more adaptable to the present needs of private flying. He has seen and talked with pilots, potential pilots, representatives of flying schools, and aircraft manufacturers, aeronautic organizations and editors of trade papers to obtain their opinions on the changes in the regulations which were then proposed.

The amateur pilot's license is designed to bridge the gap between the student pilot and the private grade of license. With the creation of this license there are now four grades: Amateur, private, limited commercial and transport aircraft pilot licenses. In order to secure the amateur license an applicant is required to have had twenty-five hours solo flying time, including at least five hours within the last sixty days before application. He must pass examinations on the air commerce regulations and air traffic rules and take a flight test. The amateur pilot will be allowed to pilot licensed aircraft but he may not carry persons.

New ratings for Department of Commerce approved schools established under the amendments are "amateur flying school," and "amateur and private ground school."

The original medical examination for the amateur pilot license will be the same as that for private and student pilots and shall be given by a designated medical examiner of the Department of Commerce, but in order to *renew* licenses in these grades, the examination may be given by any accredited doctor who is acceptable to the Department.

While no changes have been made in the requirement that private pilots shall have had fifty hours solo flying to qualify for license, it is now necessary that they take the same flight tests as prescribed for transport pilots except the cross country flight. Private pilots may now operate aircraft carrying guests, executives or employees of companies by which they are employed *provided* no payment is made for the transportation. They also may demonstrate aircraft in flight to prospective buyers, but may not pilot either licensed or unlicensed aircraft with persons or cargo for hire.

Student pilots may make solo cross country practice flights but are not permitted to make landings on airports where flying meets or air races are in progress, or at airline terminals except when accompanied by a licensed transport, limited commercial or private pilot, *unless* such an airport is their home base. *They also may not be in command of United States aircraft operating in a foreign country.* The foregoing statement is emphasized in view of the proximity of a number of the states embraced in the "southwestern area" to the Republic of Mexico.

It is now permissible for a passenger to sit at the controls of a side-by-side dual controlled aircraft operated by a transport, limited commercial or private pilot, provided no passengers are carried for hire. A passenger also may be permitted to sit at the controls of tandem dual controlled aircraft operated by a transport, limited commercial or private pilot, if no other persons are in the aircraft.

COMES the good word that State Airway systems will result from Aeronautics Branch-CWA Program.

State airway systems are being built up in many parts of the country as one result of the Department of Commerce-Civil Works Administration airport development projects. There are 688 projects under way, including 385 new fields and 303 improvements of existing facilities. The new sites have been selected to

provide landing areas along direct lines between important centers of population.

Some states are taking advantage of the present program to improve and expand their systems. Others are now inaugurating state airway programs by planning new construction so that existing and new airports will be located on natural air lanes.

In addition to serving airmen flying within the state, the airways are laid out so that they connect with routes in other states. For the most part these state airways are equipped for day flying only. Weather information can always be obtained by radio.

State programs for southwestern states are shown in the accompanying table:

APPROVED AIRPORT PROJECTS IN THE SOUTHWESTERN AREA UNDER JOINT AERONAUTICS-CWA PROGRAM*

State—	New Fields	Improvements to Existing Airports	Total	Number of Men Employed
Arkansas	7	5	12	1,067
Louisiana	0	3	3	164
Missouri	6	6	12	1,272
New Mexico	0	0	0	0
Oklahoma	4	8	12	567
Texas	5	7	12	1,312
Totals	22	29	51	4,382
Compare: U. S. Grand Total	385	303	688	67,361

*The additional good word is that still other projects have been approved conditionally and work will be authorized when, as and if additional funds are made available.

DEPARTMENT OF COMMERCE AIRPORT ADVISERS FOR SOUTHWESTERN STATES

Arkansas.....Chas. M. Taylor, Little Rock
Louisiana.....W. S. Young, Shreveport
Missouri.....Roy C. Farrell, Kansas City
New Mexico.....R. L. Harrison, Albuquerque
Oklahoma.....W. C. Lewis, Oklahoma City
Texas.....M. J. Norrell, Dallas

COMES the good word that roof markings for airmen are being established under CWA program.

An opportunity for every city and town in the country to identify itself with a roof marking visible to airmen in flight is being made available as a part of the Civil Works Administration re-employment program. Communities which do not have such markings are urged both by the Civil Works Administration and the Department of Commerce to take advantage of this feature of the Federal Government's recovery activities.

Although previous campaigns by various agencies resulted in the establishment of many air markings, the number of cities still lacking such identification is large. The last census lists a total of 16,598 incorporated cities and towns in the United States. Definite figures on air marking are not available, but the Department of Commerce estimates that *not more than* 2,000 are so identified at the present time. This presents a challenge to the *Southwest*.

Marking of additional cities will facilitate cross-country flying operations, and by reducing the possibility of pilots straying from their charted courses, will contribute materially to public safety.

Civil Works funds can be used for both the labor and material involved.

Due to the fact that the original funds made available to the CWA have been allotted, the only markers *now* being established are those already approved, but applications still are being handled, and favorable action will be taken in every meritorious case if additional money is set aside for the CWA re-employment work. Like all Civil Works projects, the money for air marking is withdrawn from the general allotment of a state. The extent of the air marking program in a given state, therefore, depends upon the efforts made within the state to interest the various communities in asking for approval of roof identifications.

Roof markings are of utmost importance to airmen flying over territory with which they are not familiar.

When the pilot can not recognize features of the terrain over which he is flying, he is lost, and has to land at the first available airport to orient himself.

It has been observed that pioneer airmen used to fly cross-country by following railroad tracks. Upon reaching a town they would fly low over the railroad station to read the name on the side. This served the pilot's purpose if he was able to read the sign, which he could do only with difficulty. Now cross-country flying along the trunk line air routes is accomplished with the guidance of air navigation aids on the Federal Airways System. But much flying is away from these routes, and a most important guide for off-airway flying is the roof marker telling the airman the name of the town over which he is passing, and since railroad tracks still are used as guides in cross-country flying, it is advisable to place the marking on or near the railroad station.

The establishment of a uniform, well-distributed marking plan will awaken the interest of those who never considered purchase and stimulate the enthusiasm of prospective purchasers of privately-owned aircraft.

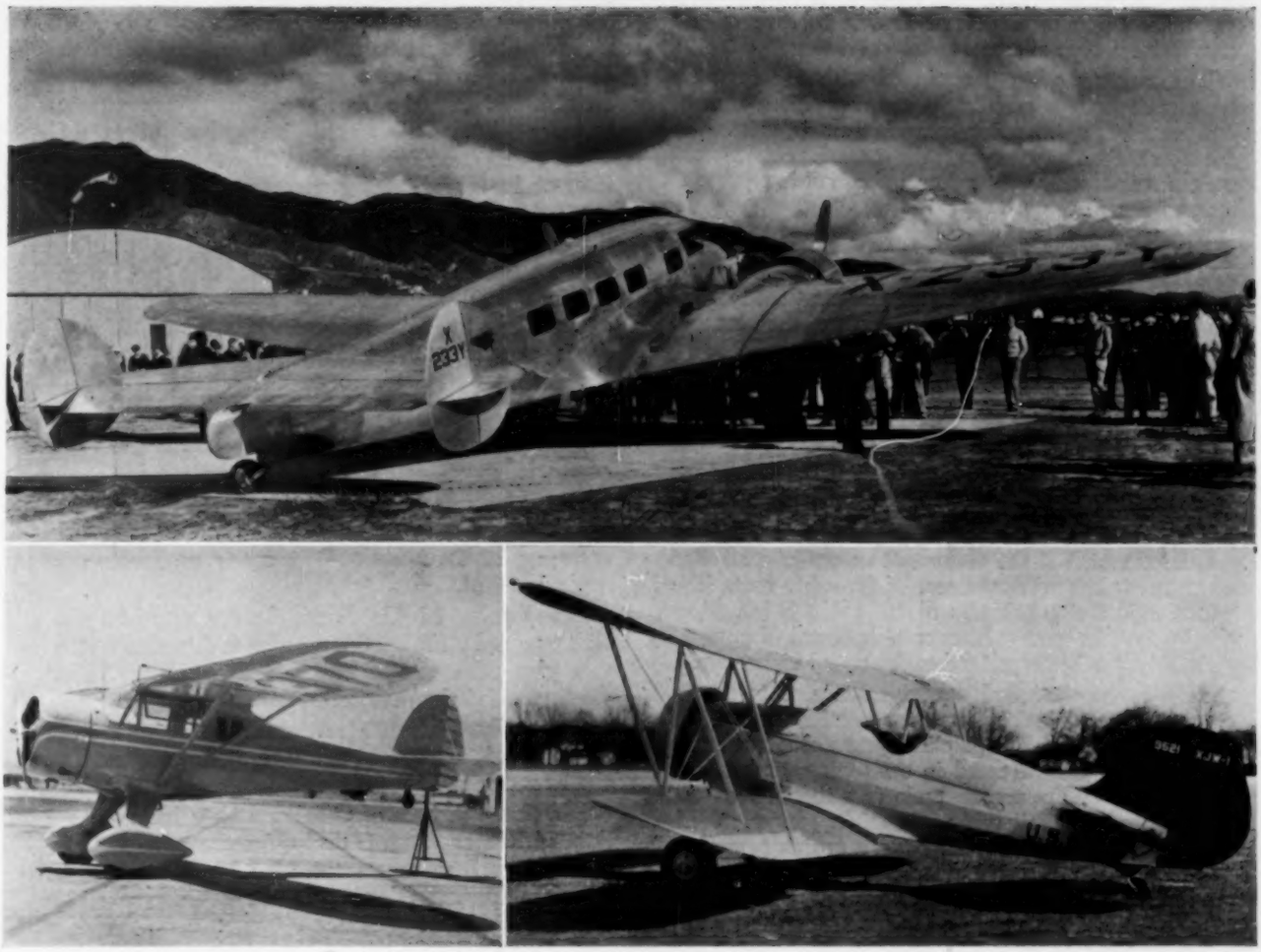
COMES the good word that there has been an appointment of three *subcommittees* to proceed immediately into the various phases of the development of a volume-production airplane for private flying was the immediate outgrowth of the meeting in the Commerce Department of a special committee of outstanding leaders in American aeronautics who assembled in Washington to study plans for the development of such an airplane. The Public Works Administration recently announced the allotment of $500,000 to the Aeronautics Branch of the Department of Commerce for development work on a volume-production airplane.

The committees appointed are as follows:

To confer with the aircraft industry on details of procedure in developing the low-priced airplane: Eugene L. Vidal, Director of Aeronautics, Department of Commerce, Chairman; Edward P. Warner, Society of Automotive Engineers, and Leighton W. Rogers, Aeronautical Chamber of Commerce.*

(Continued on page 22)

* The matter is now under advisement in the hands of the committee. For progress made to date address inquiries to Aeronautical Chamber of Commerce, 22 E. 40th St., New York City.



Monocoupe Model "D" Above: The New Lockheed "Electra" The Waco Model "F-2"

AIRCRAFT 1934

THE ELECTRA

Announcing approximately $250,000 in signed contracts for the new bi-motor, all-metal low-wing Electra, the Lockheed Corporation of Burbank, California, is swinging into a full production program. Northwest Airways has an option on the first three Electras and Pan American Airways has placed an order for six.

The Electra, recently flown in test flights by Eddie Allen, had a top speed of 221 miles per hour. Utilizing 75% of its power, the cruising speed was shown to be 203 miles per hour at 10,500 feet. The power plants used were two supercharged Pratt & Whitney Wasp Junior engines, rated at 420 horsepower each at 5,000 feet. They are equipped with Hamilton Standard controllable pitch propellers.

Completely streamlined, the long-heralded Lockheed product has a wing span of fifty-five feet, length of thirty-eight feet, and a height of ten feet. The engine nacelles are set in the leading edge of the wing, providing minimum drag and maximum lift. The steel tube nacelle structure not only supports the engine, but also carries the electrically operated retractable landing gear. The tail surfaces are completely cantilever. Fins and stabilizer are non-adjustable, bolted solidly to the fuselage; the rudders and elevators are provided with adjustable tabs (auxiliary control flaps) to trim the plane in flight. Two small and more effective vertical surfaces located near the outer edge of the stabilizer and elevator take the place of a larger vertical fin and rudder. This construction permits full benefit of the slipstream, considerable stability, better longitudinal control, and a reduction in the torsion load.

With a full load of ten passengers, crew of two, and mail and express, the Electra will have a service ceiling of 20,000 feet. It can take off and climb to 5,000 feet on either of the two powerful motors, and in spite of

the high cruising speed, will land at sixty-five miles per hour with the aid of air brakes, inboard of the conventional type ailerons.

The spacious cabin is equipped with ten reclining type seats and is completely sound-proofed, heated, and ventilated. A toilet compartment is located in the rear. Fuel capacity of the new Electra is 200 gallons; oil capacity, 14 gallons; the cruising range is set at 560 miles.

THE MONOCOUPE

From the shops of Monocoupe Corporation, Robertson, Missouri, comes the announcement of the neat and trim Model "D," pictured above.

Powered with the 145-horsepower Warner motor, the new Monocoupe boasts of many refinements and improvements in performance and comfort. The cabin width has been increased, and the seating arrangement and controls are changed so that ample room is obtained. Proper ventilation results from the use of a fresh air duct which brings air into the cabin from a point forward of the motor. A manually controlled ventilator is located at the rear of the cabin roof. The window on the pilot's side of the cabin is hinged at the top so that it may be opened outward. Improved vision is a predominant note in the new Monocoupe.

The instrument board has been increased in size in order to allow sufficient room for installation of blind flying instruments. The gasoline system consists of two fifteen-gallon tanks located in each wing, and a four and a half gallon reserve tank just forward of the instrument board, all tanks with sight gauges. With a top speed of 170 miles per hour, a cruising speed of 140 miles per hour, and a landing speed of 50 miles per hour, tests have shown the Monocoupe to produce 17 miles to the gallon of fuel, which is approximately 8.0 gallons per hour.

Longitudinal balance is controlled by means of a movable tab on the elevators, which in turn is adjusted by a small lever located on the left side of the cabin. A continuous adjustment is provided, having sufficient range to take care of all normal loading conditions. This type of adjustment allows the use of rigid stabilizer construction. The landing gear is particularly well streamlined and rather unique in construction in that it employs a combination oil and shock cord tension strut located in the fuselage and fastened to the wheel axle by streamlined brace wires. Wheel pants are included as standard equipment. A full swiveling, steerable tail wheel has a solid rubber tire and employs a shock cord shock absorber. Other standard equipment includes all Pioneer instruments with the exception of bank and turn and rate of climb. The Monocoupe has an electric starter, battery, steel propeller, wheel pants, parking brakes, dual pedals and brakes. It is bonded for radio, and has a five-hour cruising range.

WACO

The Waco Aircraft Company recently delivered two Waco Model F-2 biplanes to the United States Navy. The planes were assigned to the dirigible "Macon" and are used for the transportation of non-flying personnel.

Other than providing for the installation of the necessary gear for attaching the ships to the dirigible, no structural changes were made in the two stock models. Carrying two passengers and the pilot, the F-2's will provide fast transportation between the dirigible and ground or carrier points. A compartment to carry a life raft is located directly back of the rear cockpit, and is equipped with a quick releasing device in case of a forced landing upon the water.

The two ships which will see permanent service with the huge "Macon" are powered with the standard Continental seven-cylinder engines, each of which develops 210 horsepower at 2000 revolutions per minute. The two Waco planes were with the "Macon" during the recent West Coast maneuvers.

KINNER

Kinner Airplane & Motor Corporation, Ltd., of Glendale, California, has received an order for five Kinner Playboys from the Department of Commerce. These ships will be used by the inspectors of the Department of Commerce. Delivery is expected to be made in April.

Mr. Wesley N. Raymond, factory representative, demonstrated a Kinner Sportster with demountable top throughout the state of Texas during February. Ideal weather aided the demonstration.

A new four-place 300-horsepower cabin airplane will be delivered, as soon as test flights are completed, to the new owner in San Francisco.

Mr. Jerry B. Sass of Oklahoma City has been appointed Kinner Aircraft dealer for the state of Oklahoma. Mr. Sass, accompanied by Mrs. Sass and Lt. Fleming, drove to Glendale to take delivery of a 125-horsepower Kinner Sportster.

BOEING

A recent announcement from the Boeing Airplane Company stated that their new product, an improvement on the well-known "247," will be ready for test flights sometime in June. Geared Wasp engines will be used for power. Three-bladed Hamilton Standard controllable pitch propellers will give increased performance. Full details have not been announced.

Jack Harding, Boeing sales department, spent three weeks in Barksdale Field, Shreveport, Louisiana, conducting service liaison work in connection with the new Boeing P-26A pursuit planes now being delivered to that base.

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LONDON-MELBOURNE

October 20, 1934, is a long time off. Yet much talk is going around concerning the great international race from London to Melbourne, Australia, that pays approximately $50,000 to win, $7,500 to place, and $2,500 to show. Lockheed expects to be represented. One Orion has been shipped to France. Several Orions and Vegas are being given thorough overhaulings. Beech Aircraft in Wichita passes a very definite hint that a well-known pilot chooses to fly one of the speedy Beechcrafts in the MacRobertson Classic.

U. S. Army Photo—20th Photo Section.

"Its massive tower rises like a sheer white obelisk . . . ."

Academy of the Air

Part I. Descriptive and Historical

By MARLIN S. McGRADY

Fifteen miles to the east of San Antonio on what is generally known as the old Houston Highway, a sudden break occurs in the rugged Texas landscape. A magnificent city of ultra-modern design, completely encompassed by an expansive carpet of verdant Bermuda grass, looms up into view, eclipsing the natural beauty of the South Texas brush country. One would more reasonably expect to run upon a Mexican *caballero,* driving a string of lanky Texas steers through mesquite and cactus patches, than to come abruptly upon the greatest monument to aviation the world has ever known, namely, Randolph Field. Here one finds a veritable Utopian city, not only in its sheer architectural beauty, but also in the daily life of its four thousand inhabitants, a population that approximates the ideal in mixing daily work with recreation, knowledge with adventure, domestic life with the most serious business in the world,—that of furnishing the Army Air Corps with its very life's blood. Randolph Field is not only the world's largest and finest academy of the air, but the most ideal military post of the United States Army; it is an achievement worthy of tomorrow, a southwestern shrine.

The greatest project ever undertaken by the United States Army with the single exception of the Panama Canal, Randolph Field reflects the tremendous investment behind it. From its unique administration building to the myriad of landing lights on the four borders of the field, nothing has been omitted that might prevent Randolph from being complete and modern in every detail. The field is arranged in an almost perfect square, comprising twenty-three hundred acres. In the center of the sward rises the mile-square building area, a city built in a fantastic pattern. A barely perceptible rise toward the center assures complete drainage. An encircling ring of lights plainly designates the boundaries at night, making landings possible in any direction. Only the double ribbon of concrete that cuts across the north field connects this city of four thousand inhabitants with the outside world.

Driving into the Field from the old Houston Highway, one is directly confronted with the Administration Building. Its massive tower, which rises like a sheer white obelisk one hundred and twenty feet into the sky, is flanked by three wings at its base, and is surmounted by a purple and gold striped Moorish dome. In this stately edifice is located the photo department, telegraph office, theater, postoffice, operations office, and various administrative departments. To the casual observer, there would be no suspicion that the octagon tower also contains a 500,000-gallon water reservoir, whose base is one of the largest blocks of poured con-

crete in the world. This building was constructed at a cost of approximately two hundred and fifty thousand dollars. Directly behind the Administration Building are the officers' quarters, arranged about two concentric octagons and an outer circle, which is intercepted by eight streets radiating from the officers' club in the center. On two sides, this outside circle is flanked by rows of barracks, housing the enlisted personnel, while farther out and bordering the inside of the field are the eighteen spacious hangars. Every building on the field is of the low, red tile-roofed Spanish Mission architecture; each unit presents a faintly varying hue that blends with the others into a scheme of color harmony delightful to the eye. No expense has been spared to bring every modern convenience and luxury to the personnel of the field and their families. Recreation seekers are afforded a theater with a nightly change of pictures, four swimming pools, a baseball

OFFICERS' CLUB

U. S. Army Photo—20th Photo Section.

diamond, a tennis court, gridiron, athletic field, a golf driving range, and a riding club.

On the hangar lines every modern facility has likewise been provided. Underground gasoline lines service each returning plane; a mile-long asphalt runway extends the length of each hangar line. Two-thirds of the hangar wall and door surface are of glass, affording exceptionally well lighted interiors. The minutest details from the shops in the hangars to the class room equipment have been worked out to perfection. The predominant impressions of the casual visitor are those of cleanliness and efficiency.

The primary Flying Schools at March Field and Brooks Field were moved to Randolph Field in October, 1931; the first student training began on November 2nd of the same year, making Randolph the only primary flying school maintained by the United States Army Air Corps. The paramount purpose of the school is to provide the air service with competent military airplane pilots. The expense of the instruction is borne entirely by the government. From every walk of life come the candidates; each state and several foreign countries have been represented at this great school. Classes begin March 1st, July 1st, and October 15th of each year. Approximately 152 hours of flying training go to each successful student. Instruction is given in all maneuvers necessary in piloting planes. In addition, the student undergoes ground courses in airplane engines and design, trouble shooting, theory of flight, radio, aerial photography, meteorology, navigation, machine gunnery, as well as the basic military subjects for those who have had no previous military training.

On any morning one may enter the ground school between flying classes and hear the rhythmic buzz of radio signals, the click of instruments, or see the embryo pilots hard at work on problems of navigation or meteorology; for all of these are essential in the making of a military pilot. Outside the class rooms the morning sun glints brilliantly on speeding wings; blue fuselages throb to the roar of powerful engines,—a majestic panorama of the skies. These future pilots take off, they bank, they dive, they glide, they land, each pilot striving his utmost to attain proficiency.

The idea to establish a central, primary training school found its inception immediately after Congress passed the five-year expansion program for the Air Corps in July, 1926. After the institution received official approval, the next question was to decide which locality offered the most ideal conditions for year 'round flying. Many cities bid for favor, offering their peculiar climatic advantages. At this time March Field near Riverside, California, and Brooks Field near San Antonio were maintained by the Air Corps as primary flying schools. A cadet underwent eight months of primary and basic training at either of these two fields and then proceeded to Kelly Field, also near San Antonio, in order to complete the last four months course at the advanced school. It wasn't much of a problem to transfer a cadet from Brooks to Kelly; but the long sixteen-hundred-mile jaunt from the California field involved considerable expense. Then, too, there were the inevitable difficulties of curricula and methods

(Continued on page 19)

Proven Ground

To Aid German Pilots

Richard Lee Dobie, veteran pilot of United Airlines, and the first pilot to fly the air mail into the Southwest on an established air route, sailed for Germany March 7th with three Boeing 247's, which are to be delivered to the Deutsche Luft Hansa air system of that country. The selection of Dobie for the trip was made by United Air Line officials at the request of the German air organization, which had asked that a pilot experienced in flying the new equipment be sent to instruct

RICHARD LEE DOBIE

German pilots. The 247's are now in use over the entire United system, and are manufactured by an organization affiliated with the air line under the United Aircraft and Transport Corporation.

It was as a pilot for National Air Transport, now a division of United Air Lines, that Dobie flew the first mail into the Southwest on May 12, 1926. He also flew the last mail into the Southwest before the Army took it over on February 19th. In the nearly eight years of flying for United, Dobie has compiled more than 7,000 flying hours, day and night, in good and bad weather, over the Fort Worth and Dallas to Kansas City airway. Indicating the hours he has flown for United are seven stars on the sleeves of his uniform coats.

Dobie, a native Southwesterner, was born in Beeville, Texas. He learned to fly in the Army in 1917, and later became a military instructor. While at Kelly Field, he led a formation of 105 "Jennies" over the field,—the largest armada of planes to be assembled in the air at that time. After leaving the Army, he turned to barnstorming and flew war-time planes over Texas, Oklahoma, Kansas, Arkansas, and Louisiana, thrilling crowds by his night flying with fireworks on his plane. His trip to Germany will necessitate a two months' leave of absence from his duties here. The Deutsche Luft Hansa will operate the Boeing Transports between Berlin, London, Paris, and other continental European cities. Dobie arrived in Hamburg March 20th.

The Winnie Mae Again

Wiley Post, famed 'round-the-world flier, is planning more pioneering work in aviation during the coming months, he disclosed just before taking off from the Braniff Airport for California, where he is now installing new instruments and radio equipment in the trim Winnie Mae, in order to attempt stratosphere flying.

Post stated that he was confident that stratosphere flights were not only possible, but highly practical, and that he was experimenting with mechanical changes which had to be made because of the much lighter air pressure at extremely high altitudes. Post spent several days in Oklahoma City while his ship was being checked at the Braniff Airway shops, under the direction of S. E. Perry, his technical advisor.

Small Class Gets Wings

A class of seventy student officers and cadets, the smallest in several years, was graduated at Kelly Field in February. Texas had the largest representation with twelve graduates, all flying cadets; California was runner-up with eleven. One foreign officer, Lieutenant Arnaldo G. Garza of the Mexican Army, received his wings with the Americans.

In accordance with the new official War Department ruling, the graduates, instead of being immediately commissioned as in the past, were placed in tactical units for one year, remaining as cadets.

Among the graduates were: Edgar W. Root, George S. Sanford, and Edward W. Virgin, Alabama; Frank R. Cook, Fay W. Olmsted, and Lewis L. Mundell, Colorado; James O. Simmons, Phil J. Von Weller, Georgia; Frank C. Stone, Kansas; Neil M. Caldwell, Louisiana; Victor H. Walker, New Mexico; Clifford Motley, Oklahoma; Frederick C. Gray, Jr., Horace G. Moore, Alvin R. Luedecke, Weldon M. James, Paul E. Todd, Ralph W. Dodieck, Joseph A. Hilger, Joseph E. Woodruff, Leslie E. Martin, J. W. Hinton, Albert L. Palmer, Browne Clement, all of Texas.

Dallas Aviator Traps Hot Check Artists

On March 15th, shortly after noon, Lou Foote, of the Lou Foote-Van Cleave Aircraft Company, Dallas, zoomed out of the sky from a height of 11,000 feet and hastily delivered two check-passers into the hands of Dallas authorities. Foote's two chagrined passengers, believing themselves to be landing in Alexandria, Louisiana, were sick of body from the results produced by a couple of snap rolls and an Immelman turn in

(Continued on page 21)

Ports of Call

The Southwest's air consciousness was born during the stormy years of 1917-1918. The Canadians came down from the North to train their flyers on southwestern soil—to utilize the climatic advantages. And with the subsequent entrance of the United States into the great conflict, Army air training fields sprang up like mushrooms over night. Land was purchased, great wooden hangars and low-roofed barracks were hastily thrown together. Southwestern skies were resonant with the droning motors of hundreds of "jennies." Private flying was then unknown.

Then came the period of rapid development. After the war, military pilots returned from the service, many seeking employment or a livelihood in aviation. Youth in the spirit of adventure, went up into the sky for the pure enjoyment of it. Flying schools were established. Barnstormers flooded the country. Citizens of towns and hamlets paid five dollars for a ten-minute ride. Entire towns would turn out to see the spectacle of a visiting airplane. When pilots took off from one town and headed out for another, there was always a question in their minds: "Where will I land?" They considered themselves fortunate if they sighted even so much as a cow pasture or a last year's cotton field.

In the early '20s the Federal Government anticipated the great wave of aviation development. It began its sponsorship and regulatory program, and nurtured the infant industry. Municipalities and commercial enterprise joined in the movement to establish landing fields and aids to flying. Today we enjoy the manifest benefits of these years of planning, research, and capital expenditure.

PWA and CWA appropriations throughout the past depression year have made possible continued airport development. The Southwest has profited substantially from these Federal loans and allotments.

Heart of the Ozarks

The historical development of the Springfield, Mo., airport admirably reflects municipal and commercial interests in the establishment of facilities for airmen in the past few years. Constructed at a cost of approximately $150,000, this Missouri city is justly proud of one of the finest airports in the Southwest. Development began five years ago when the Springfield Park Board leased a large farm three miles northeast of the city.

The field proved an excellent location and rollers were put to work to smooth out some of the "waves" which were hazardous to airplanes landing there. Need soon became apparent for storage facilities and a large hangar was erected at a cost of $16,500. A manager was appointed for the airport to be stationed on the field. Water mains, lights and a roller were purchased about the same time by the Park Board for use at the airport.

Leasing the airport proved too expensive, and the Park Board undertook to buy the land and establish a municipally owned airport. This was finally accomplished at a total expenditure of $65,000 with an additional expense of $15,000 for right of way and relocation of a power line along the east side of the field, which had been designated as a major hazard by the Department of Commerce Airport Inspectors. Paving of the Division Street road was the next step in the development of the airport and paving was completed to the airport at an approximate cost of $1,000. Plans were subsequently made for an administration building and proper lighting of the field.

Work was started on these two new projects almost immediately and the administration building was soon constructed, although the interior was not finished for several months. A revolving beacon was installed on the steel tower and lights were placed on obstructions about the field. These improvements cost over $3,000.

In 1931 Ozark Airways, Inc., was formed by Springfield and Southwest Missouri stockholders and began operations on a small scale. At this time the company had only one plane, and flight instruction was given to several Springfield students. A few months later the plane was wrecked and a new plane bought by the company. The new plane was a four-passenger cabin monoplane and formed the basis of a test air line to Kansas City. At this time the Ozark Airways under the able supervision of Geo. M. Prescott, President, began a distinct expansion program and two more airplanes were purchased.

Ozark Airways then leased the hangar on the field from the Park Board. Their test air line to Kansas City was operated with offices in a downtown hotel. This air line was operated as a test to determine the feasibility of an air line north from Springfield to Kansas City and south from Springfield to Memphis, Birmingham and Jacksonville. As a result of this line to Kansas City, plans for the new line from Kansas City to Jacksonville were begun. Consequently the line to Kansas City was discontinued. Contact was made with the Lockheed Aircraft Corporation with the object in mind of using the fast Lockheed planes on the new line. Contact stations had been located at all of these points, and everything was made ready to begin operation. In the latter part of 1933 they leased the entire airport from the Springfield Park Board and moved their offices to the administration building, the interior of which they completed, installed a modern restaurant and private dining room and fitted out dormitory rooms on the second floor. Transcontinental & Western Air and Braniff Air Lines leased office space from the company at the airport and contact was made with the Government Weather Bureau for location of radio station KCAV in this building.

The staff of the company was enlarged considerably with this expansion program. An Operations Manager, Assistant Manager to the President, Secretary and Bookkeeper were employed. Operations of the company have reached a high degree of efficiency.

Ozark Airways operates the largest flying school in the state of Missouri, with over forty students enrolled at the present time. Mechanical, as well as flight courses, are offered at the school and a radio course is being considered by the management. Ozark Airways may

(Continued on page 21)

justly be proud of its Flying School, which is recognized among airmen as one of the leading schools in the country.

With eleven planes on the field and the continued expansion of their company school, the future for Ozark Airways is bright indeed.

Port of Entry

A PWA loan of $55,000 for El Paso's municipal airport will be used in the construction of an administration building, a concrete apron, and in grading the landing field. The airport boasts of two average sized hangers, one of steel, and the other of steel and concrete construction.

Since the airport is an international port of entry, and is used by Aerovias Centrales, S. A., Mexico City airline, it is necessary that quarters be provided for the use of customs, immigration and public health inspectors. Mexican officials make their inspections at the El Paso airport, inasmuch as there is no field in Juarez, just across the Rio Grande, available for aircraft leaving or entering the republic.

The present quarters in front of one of the hangers are inadequate to meet the demands placed upon them. With a new administration building, quarters for the various governmental services will be provided.

The El Paso Municipal airport adjoins Biggs Field, U. S. Army airport at Fort Bliss. The east-west runways of the two fields are connected, producing one runway that is approximately three miles long.

The U. S. Customs unit at El Paso probably will be augmented in the near future with the establishment of a permanent air unit at this border port, according to an announcement made by H. S. Creighton, supervising customs agent. When services of an airplane are needed in El Paso or vicinity they may be obtained within a few hours even now, but the establishment of a permanent unit would be of advantage to the local customs forces. Creighton announced that this unit was now under consideration and that in all probability it would be ordered soon. Construction of shelter houses at strategic points along the border for customs inspectors on patrol also is under consideration, following recommendations made by Adrian Pool, collector of customs for the El Paso port.

Hub of the Plains

Equidistant from TWA's and American Airways' transcontinental routes, Lubbock is isolated as far as scheduled line operations are concerned. However, the progressive little metropolis maintains an airport with an A-1-B Department of Commerce rating, and enjoys a brisk business from local and transit flyers. The airport manager, Clint Breedlove, holds a transport pilot's license and an A and E mechanic's license as well. Twenty-four hour service with all facilities is available. Lubbock offers one of the most unique services that other airports of like size might do well to adopt: free transportation to town. An automobile is on the field at all times, ready to carry the transient visitor into the city. The entire field of 640 acres is available for landing, and is completely lighted at night.

Chanute, Kansas.

The $8,500 CWA appropriation for the Chanute Municipal Airport has been used to install tile drains and dirt fills, to paint the hangar administration building, to install boundary lights, and light towers, and to extend the concrete apron an additional sixty feet. With this improvement, the entire 160-acre plot is available for landings.

Joplin, Missouri.

The Junge Municipal Airport in this city has enjoyed much needed improvement from appropriations of $72,000. Runways are being extended, and all obstructions are being removed, according to R. T. McCrum, Flight Instructor of the Joplin Air Service. Field markings and complete lighting facilities are being installed.

Muskogee, Oklahoma.

L. L. Rupert reports many improvements to the Muskogee airport. A complete drainage system has been installed, and the entire field has been leveled. Planting of Bermuda grass and rolling the runways will begin shortly. Twelve hundred dollars has been spent on the improvements during the winter months.

Fort Worth, Texas.

The southwest-northeast runway, 3,300 feet in length, is rapidly nearing completion. The east-west runway has been extended from 2,200 to 3,400 feet. Taxi strips and extensive grading in front of the American Airways Southern Division terminal are now completed. Hundreds of CWA workers have been busy throughout the winter months.

Colorado Springs.

Steady increases in overhauls and repair work, as well as an increase in the number of students enrolled

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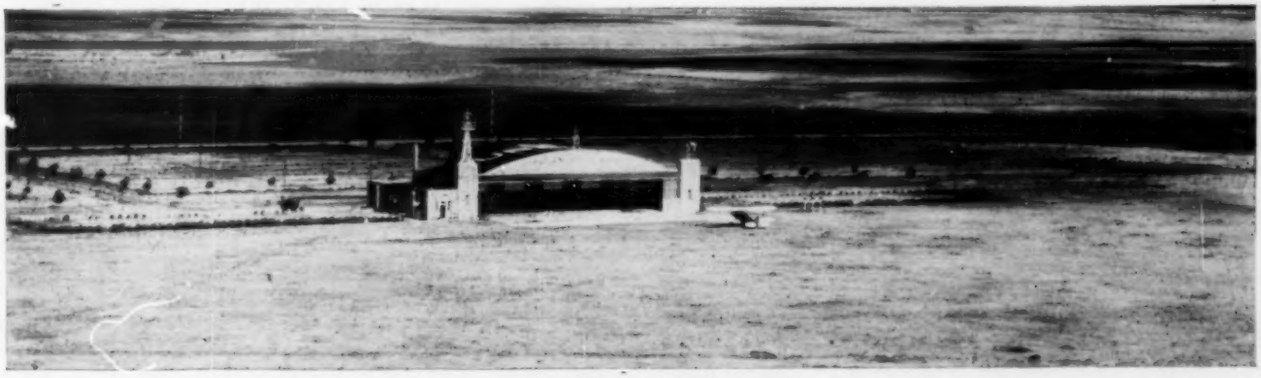


THE LUBBOCK AIRPORT

Transport Topics

With Pan American Airways' Western Division Terminus in Brownsville, and Aerovias Centrales' terminus in El Paso and Nogales, with Braniff, United, Bowen, American Airways, Wedell-Williams, Reed, and Transcontinental & Western Air interlacing the southwestern states with a network of efficient and unique air transportation facilities, convenient schedules and connections are offered to all parts of the Western Hemisphere.

Five Years of Service

From Atlanta to Los Angeles, and from Memphis to Brownsville, the executives and personnel of American Airways' Southern Division recently observed the fifth anniversary of the inauguration of air passenger service in the Southwest. On March 16, 1929, the first

C. R. Smith

scheduled passenger plane in the Southwest flew from Fort Worth to El Paso.

Texas Air Transport operated this first passenger plane, and this pioneer company's line is now an integral part of the American Airways' extensive air transport system, comprising five major airlines operated out of its Fort Worth headquarters base. These are the lines from Fort Worth and Dallas to El Paso-Los Angeles; Jackson, Miss.,-Atlanta; Houston-Galveston, Memphis-Cleveland, Ohio, and San Antonio-Brownsville.

Five years ago five planes and six pilots were utilized by the infant company. At the present time thirty-five planes are in operation, and seventy pilots are employed. It is an interesting fact that nearly all the original pilots on the first airline are still flying American Airways Southern Division planes. Instead of the five-passenger planes of 1929, the planes operating in the division today are the fifteen-passenger Curtiss-Wright Condors, twelve-passenger Fords, eight-passenger Stinsons and Pilgrims. According to figures obtained from C. R. Smith, vice president in charge of the Southern Division, American Airways employees total 412 on the Southern Division, necessitating an annual payroll of over $1,000,000.

Speed Record

Ray Biendorf and Bennie Howard, crack pilots of United Air Lines, established a new record on their flight from Dallas to Chicago on the night of March 12th. Biendorf piloted the plane into Kansas City, and Howard took it from Kansas City to Chicago. Total flying time was four hours, forty-eight minutes. The former record over this run was five hours, eight minutes. The record-making plane carried seven passengers, and was on the ground fifty-five minutes in Kansas City waiting for schedule.

South of Southwest

Special correspondence courses for Pan American's flight personnel are now available through a recent arrangement with the International Correspondence Schools. Three courses are available: a Special Course, which includes technical subjects and Spanish; a Basic Course which includes technical subjects, Spanish and Georgraphy, and a course in Navigation and Seamanship. Upon completion of the course, one-half of the tuition costs will be paid by Pan American.

Among the improvements recently installed at Brownsville are sliding doors on hangar No. 2 to replace the old type lifting doors damaged by hurricane. Other improvements include a new motor testing house of special design, which has practically eliminated the din associated with testing motors. A fine outside utility building to house aircraft motors and automobile equipment has been completed. Work has begun on landscaping the parkway fronting the administration building.

Pan American Airways has placed orders totaling $3,349,000 for additional equipment. Six twin-engined Lockheeds and six twin-engined Douglas transports will be utilized in service over the Western Division between Texas, Mexico, and the Central and South American republics. This fleet of modern transports cruise at approximately 200 miles per hour. Their 20,000 to 30,000-feet service ceiling make them especially adaptable to the routes over the mountain ranges of Mexico, and the Andes of South America. Six trans-oceanic type flying boats under construction at the Martin and Sikorsky factories, and six new type Fairchild amphibians complete the huge equipment order.

(Continued on page 24)

Headwinds

(Letters received by SOUTHWESTERN AVIATION will be published in this column which has been established as an open forum of individual thought and comment. Opinions herein expressed are not to be considered those of SOUTHWESTERN AVIATION. Right reserved to condense or reject contributions.—Ed. Note.)

Editor, Southwestern Aviation,
Ledger Building,
Fort Worth, Texas.

Dear Sir:

The most amusing result of the Department of Commerce's sponsorship of the cheap airplane is the large number of concerns that have stepped forth, claiming their creations to be the answer to the "poor man's" prayer. No doubt most of these manufacturers are sincere enough in their beliefs; nevertheless, some of their products become rather ridiculous when the two or three-year-old crates are hauled out and held up as shining examples of the desired plane, thereby blasting a lot of thunder carefully built up by the Department.

I understand that the Aeronautics Branch intends to interest the industry in the task of designing a completely *new* airplane which could be fabricated in quantities at a price necessitating volume production machinery. I have come to believe that until a design along these lines is accomplished, the idea has not progressed very far.

It may be possible to turn out both welded steel tube jobs and wooden wing airplanes with the use of volume production machinery, but such machinery works sheet metal far more efficiently than wood or tubing. It appears that the important factor to be accomplished in any event is the development of *methods* of production rather than the design of the plane, for the design may change as the volume method develops.—C. H. A., Tulsa, Okla.

Southwestern Aviation,
Fort Worth, Texas.

Gentlemen:

I have a sincere plea to make, and hope that you see fit to publish it.

If there was ever a time for a group of men to wake up and do something for themselves, surely now is the time for about 8,000 transport pilots to take advantage of the opportunity now offered them. The fault of transport pilots has always been in our hopes for someone else to take care of us. Consequently many of us are in the soup lines, or else pumping gas into automobiles. The automobile assembly plants have more transport pilots on their payrolls than are employed by the commercial transport companies. If we can't find a wealthy plane owner, or get a job with the commercial airlines, we might as well fold up and quit. Now there is talk going around that Army pilots might be placed as co-pilots on the commercial airlines in order to receive further training. If this should happen, the airlines are closed as far as the transport pilot is concerned. If there's to be any interchange of pilots between the Army and the commercial companies, the Army might better absorb some of the highly trained unemployed transport pilots. In the past, private flying schools employed many of these pilots but most of these schools have been wiped out.

We cannot look to the Airline Pilots' Association. They are well represented in Washington, but they number less than six hundred pilots, and are banded together to protect themselves and their jobs. As most of you know, one has to be employed on an airline as "first" pilot before one can become a member of this organization. And the chances of becoming a "first" pilot are mighty slim under the present conditions. Here's the riddle that most of us can't solve: Why can't a transport pilot take the examination required by the D. O. C. for a line pilot's rating in the event he has the qualifications that entitle him to take the examination, regardless of employment by an airline company?

For the past year, your government has been asking for advice and offering its aid to industries and wage earners in order to solve the unemployment situation. So far it has done nothing for the 8,000 transport pilots, and we've no one to blame but ourselves. The government is ignorant of our condition. It does not know that about two-thirds of the transport pilots are living on soup and crackers, and that many of these pilots are valuable men of experience and have thousands of hours to their credit. If every transport pilot, who has no direct representation in Washington, would spend a few pennies in postage and write to his respective congressmen, his pleas would at least be given a hearing, and might come in for consideration in some of the pending legislation. In the changes that are to be made, employment should be increased rather than decreased. Your ideas and interests will count for something. It's about time we were getting out of the rut and doing something for our own welfare, rather than to get all worked up in hangar arguments.—R. N., New Orleans, La.

+ + +

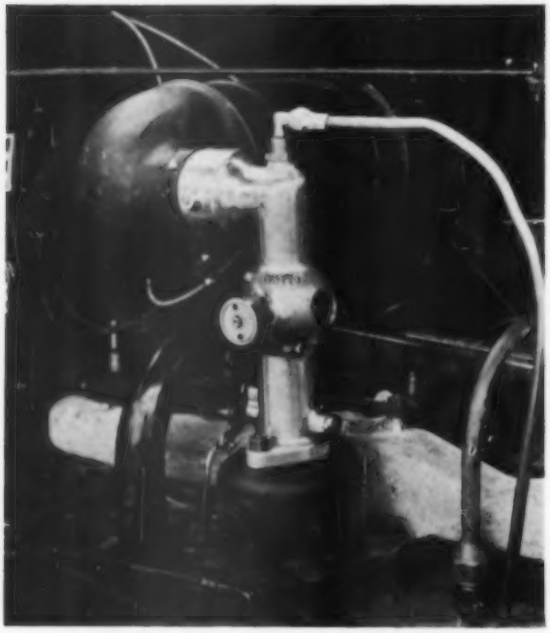
Sells Aircraft Radios

Owners of airplanes are rapidly adopting aircraft radios to "ride the beam and know their weather," according to W. E. Briece, of Bredouw-Hilliard Aeromotive Corporation, Kansas City, Mo. Bredouw-Hilliard recently furnished a remote control model Westport aircraft radio to Curtiss-Wright Airplane Company, Robertson, Mo., for installation in a Travelair 6000-B used for demonstrations and executive transportation.

Another Westport was delivered to H. A. Hershfield, president of Cabra Springs Gas & Oil Company, Albuquerque, N. M., for Hershfield's personal plane, a Kinner C-5 powered Curtiss-Wright Sedan.

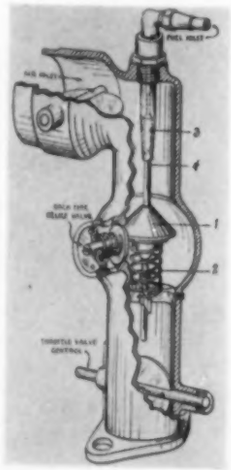
New Carburetor Applied

Lee Bowman, designer and builder of the 22-pound, 13-horsepower Dawn airplane motor, recently produced a carburetor which he has styled the Vac-U-matic. It operates by vacuum and is automatic in furnishing the engine with the proper ratio of gas and air mixture at



any speed. Designed originally for aircraft engines, the greatest feature of the Vac-u-matic carburetor is that it cannot flood in any position—up-draft, down-draft, or in any intermediate position that a plane may be forced to fly. It is a dry carburetor, having no float, no gasoline reservoir, no adjustments, by-passes, or idling screw arrangements. There is only one casting and one moving part.

The suction developed by the engine pulls the vacuum valve (1) away from its seat against a spring (2), which permits the passage of air into the manifold and to the cylinder, the proper ratio of gasoline entering the air stream through a simple metering jet (3) by action of the plunger (4). This plunger moves by resilient connection simultaneously with the vacuum valve; thus the engine by its suction regulates the amount of mixture drawn in by the throttle opening. Consequently the proper ratio of fuel and air is had at all speeds. Tests have proven it never chokes up, never gets too rich or too lean. Since there is no accelerating pump, it never forces a sudden stream of raw gasoline into the motor, and economy in fuel consumed for horsepower delivered is obtained. Back-fire is eliminated by the vacuum cone reseating itself when back-fire pressure is developed, the flame being forced out through the back-fire relief valve and away from the fuel supply.



The simplicity of design and the results so far produced by this carburetor point to wide acceptance by manufacturers of all types of engines, especially in the aircraft field, because improper functioning of carburetors has often caused serious "motor failures," the inventor pointed out. The elimination of fire hazard in back-fire also is an interesting safety feature. The Vac-u-matic so far has been tested only on automobiles, and the performance has been thoroughly convincing. At the present time one is being installed on a plane, and will be given rigid tests over a long period of time and under varied conditions.

Club Proves Success

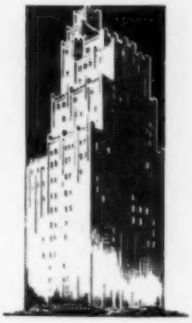
Beaumont, Texas,' Wing Over Club, formed less than two years ago, offers tangible proof of noteworthy accomplishments that can result from an active club organization. Its membership, which now numbers forty-two, is made up entirely of licensed pilots. Student pilots are classed as associate members until they receive Department of Commerce licenses. The fact that relatively few members of the club make a livelihood directly in aviation exemplifies the growing interest in amateur aeronautics on the Gulf Coast.

Not only has the club been responsible for practical improvement of flying facilities in their locality, but it has definitely stimulated the public's interest in aeronautics. Courses and public lectures are given regularly in navigation, meteorology, radio, airplane and engine design. Student pilots are encouraged, especially in preparation for written examination on Air Commerce Regulations and Air Traffic Rules. The club entertains and publicly presents aviation's visiting personalities. Frequent radio broadcasts, the collection of data on southwestern airports, public and private social affairs are a part of the Wing Over Club's interesting and constructive program.

The club maintains spacious club rooms in the La Salle Hotel. Meetings are held bi-monthly. The club boasts of a fast growing library, and prints a monthly paper about its activities. The walls of the club rooms have been decorated in water color murals, depicting historically famous aircraft, which have been autographed directly on the walls by the equally noted pilots who made the various planes renowned. Larry Jean Fisher is president of the club; Burton Holton, vice-president; Miss Weir Aldridge, secretary-treasurer. The six members, who hold regular courses of instruction in various aeronautical subjects are: Luther Caruthers, Engines; L. A. Gray, Radio; Gordon Gray, Navigation; Floyd Addison and B. F. Edgar, Airplane Structure; Gene Gray, Meteorology.

The executive board is composed of Frank Estill, A. E. Wedgeworth, Joe Delaune, O. K. Hargraves, and Pete Stuart. Of the forty-two members, five are women.

Largely from visiting pilots, who are entertained by the Club, this outstanding group of Beaumont pilots is gaining national recognition not only from its flying activity but also in advancing the cause of aviation in its sphere of influence.



AVIATORS
HEADQUARTERS
IN FORT WORTH

Our many Flying friends select The Blackstone as their own home in Fort Worth—because The Blackstone has always served them to the best of its ability—whether it be delicious food—well-kept, comfortable rooms—or those tactful little services that a well-trained organization can render. Also for the fall and winter seasons The Blackstone has engaged some splendid dance orchestras to play for luncheon and dinner daily, and the regular dances.

The
BLACKSTONE
Fort Worth's Hotel of Distinction

Academy of the Air

(Continued from page 12)

of training that could not be made to coincide in two fields so far apart. The Chief of the Air Corps, Major General Mason W. Patrick, together with Colonel C. C. Culver and Major Ralph Royce, commandants of Kelly and Brooks Fields, finally advocated the concentration of all Primary Training at San Antonio as the best place in the United States to train flyers. Thus the thriving city of San Antonio, with its three hundred days of flying weather per year and its proximity to the advanced flying school, became the final choice.

Since it was assumed that an appropriation for more land would be flatly refused inasmuch as the government already retained so much land bought up for training purposes during the war, a donation of the site was necessary. San Antonio agreed to furnish this land. Personally backed by Messrs. L. B. Clegg, L. J. Hart, E. J. Altgelt, and R. J. Boyle, all of San Antonio, a loan of $546,000.00 was made by local banks to purchase the tract from twenty-four separate land owners.

Much credit must go to General Frank P. Lahm and his untiring efforts in these early developments of Randolph Field. He rejected several offers of free land. He flatly refused anything but the best location. He would not arbitrate on any matter which would detract from the final fulfillment of an ideal Air Corps Training Center. The San Antonio Express and Colonel Tuttle of the Chamber of Commerce were likewise ardent supporters of the new enterprise. Had it not been for their noble efforts in picking up lost or forgotten threads during the long litigation and political maze that preceded its inception, Randolph Field might never have become a reality. The late Mayor C. M. Chambers will also be remembered as one of the foremost proponents of establishing the Air Corps Training Center in San Antonio.

On August 18, 1928, the field site was officially presented by the city and received by the acting Secretary of War. Farmers who had planted crops were permitted to gather them before vacating. When the mesquite thickets and small timber had been cleared away, operations were begun in earnest on the huge project under the direction of Captain Arthur W. Parker, Q. M. C. Actual construction began October 11, 1928.

The field was named in honor of Captain William Randolph of Austin, Texas. He was killed in a crash at Gorman, Texas, on January 30, 1928, while adjutant of Kelly Field. In 1916 Randolph entered the military service as a member of the Second Texas Infantry. During the World War he was commissioned a Second Lieutenant, and in 1919 he was transferred to the air service, where he ultimately attained the rank of Captain. On April 5, 1928, Gneral James E. Fechet, Chief of the Air Corps, recommended that the name, Randolph Field, be given to the new academy of the air; the War Department approved the name October 17th of the same year. To date, six classes of flying cadets have weathered the rigid training period. They entered as fledglings and emerged as qualified, proficient pilots to proceed to Kelly Field, eagles of the future. Three times a year a new class supplants the old in order to meet the constant demand for military pilots. Many are called, but few are chosen.

Technical Talk

George Carroll Explains the Plan and Purpose of His Regular Column.

Aeronautical publications, like all other forms of present-day journalism, suffer their just share of criticism. The most universally admitted failing may be found in the general treatment of technical data. In their desire to adequately report and discuss technical aircraft problems and engine design, present-day publications in the field of aviation lose themselves in a heavy fog of formulae and equasions. Result: the material is unread by the great majority of aviation's followers.

The average hangar, repair shop, and school of aeronautics, are not bureaus of technical research. The small number of aeronautical engineers and experts in aerodynamics, who have been the determining factors in airplane design as we know it today, is hardly representative of the countless thousands of enthusiasts who make up the great body of aviation's population. Pilots, mechanics, students coming along, and the laymen with enough curiosity to keep themselves well informed, remain standing on the roadside, thumbing for a ride amid the fast-moving technical traffic.

This column proposes to treat technical subjects simply, practically, and thoroughly, foregoing involved and purely scientific figures and formulae. We shall not attempt to design or engineer aircraft of any particular description. After leaving the difficult problems for the technicians, who base their facts and figures upon fundamental aerodynamic laws, tests, experiments, and mathematical calculations, this column will translate their findings, past and present, into understandable language and at the same time present practical applications in design, repair, and maintenance of aircraft.

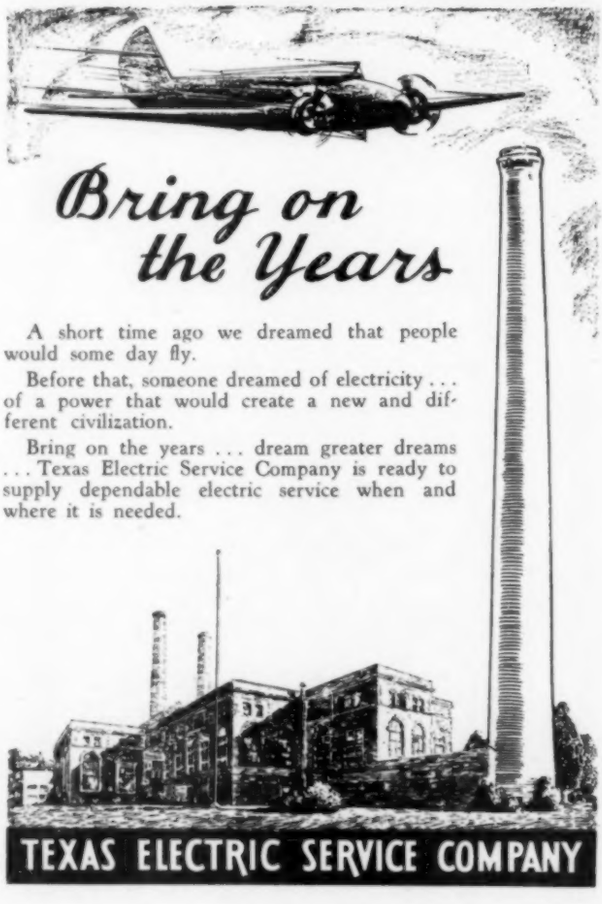
Two results are possible of accomplishment if technical subjects are treated in understandable language: (1) direct benefit will accrue to pilots, mechanics, and students who do not have the scientific training nor the time to devote to involved study; (2) laymen, who are to be made more air conscious, can be contacted through "every-day" language. Underlying principles will be explained, as well as the new developments, which continue the perfection of aviation in speed, safety and comfort, and insure the industry supremacy in the field of modern transportation. The educated layman is quickly won to the cause. The uninformed layman rarely places confidence in aircraft. And so, when aircraft is to be designed or altered, we know that we must remain within the limits of certain physical laws and mathematical determinates. The strength of any structure must be sufficient to withstand the load required of it, and must be light enough to insure proper performance. Quick take-off, practical rate of climb, and slow rate of landing speed are requisite. The technician digs to the root of all these problems in scientific research and study. But no problem is too scientific or too involved for translation into subject matter that will be informative, concise and readable.

Precision

Foreman-Inspector James Dowell of American Airways' Southern Division inspects with a magnifying glass, steel brush and micrometer each one of the 3,000 parts of an airplane motor as it passes through his engine overhaul department in separate pieces. Last year he inspected 380 motors, or 1,140,000 parts, C. R. Smith, vice president in charge of the Southern Division, said.

Not even the proverbial skill and patience of the Amsterdam diamond cutters or the watch-makers of Geneva excel these requirements in an airplane engine overhaul inspector's job, because his is the greater responsibility on account of the human life element involved. His micrometer, for instance, records measurements of 1/10,000ths of an inch fineness. His glass magnifies forty times the dimensions of the wear, tear, defect or incipient crystalization of a nut, bolt, shaft, piston or any other unit of an engine. Each of the 3,000 parts of an engine have gone through a chemical bath for cleansing before he starts his inspection.

Airplane motors are dismembered and sent through the overhaul shops after each 350 hours of air service. To the infinite care and perfect accuracy required in Dowell's job is ascribed the fact that American Airways Southern Division records show not one motor failure accident in the company's history.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Ports of Call

(Continued from page 15)

in the ground school, point to renewed activity for the spring months, according to news received from Aircraft Mechanics, Inc., of this city.

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Barksdale Field, Shreveport, La.

Since Lt. M. E. Tillery left the Air Corps to become Civil Engineer for CWA, the roads on the Reservation are becoming passable. However, everyone sympathized with Capt. O. E. Cound and Lt. Tillery, when hearing of the hardship that the two had encountered with the station wagon when it was mired down in one of the newly constructed roads. From that day, the roads seem to be inspected from the air. But the work and efforts in directing the improvements have been greatly appreciated by the Field.

Construction of new projects and buildings continues very rapidly. Non-Commissioned Officers' Quarters and the Bachelor Officers' Quarters will be completed soon. A new Air Corps gasoline system has been installed.

Visitors at Barksdale of recent date were: Lt. R. Dent, Randolph Field; Sgt. T. Dorsett, Duncan Field; Capt. Max Schneider, Bolling Field; Capt. C. E. Griffin, Brooks Field; Capt. Bivines, Fairfield Air Depot; Major E. L. Naiden, Fort Crockett; Capt. B. J. Tooher, Middletown Air Deport; Capt. F. W. Hackett, Wright Field; Lt. Paul Wurtsmith, Randolph Field; Lt. F. Everest, Maxwell Field; Sgt. Henderson, Duncan Field; Capt. Morris, Fort Crockett, and Lt. H. L. Saunders, Randolph Field.

After spending the summer in Georgia, commanding a CCC company, and then taking a leave-of-absence, Lt. J. G. Hopkins has been assigned to the Seventy-first Service Squadron for duty.

A few days ago, Lt. Douglas T. Mitchell distinguished himself under fire by being able to whistle under critical conditions. His calm saved from death what turned out to be a hound. Someone mistaking the animal for a rodent, had drawn a "bead" on the "critter," when Doug happened upon the scene. Not being in a position for action, he had to resort to a sharp whistle. The animal responded instantly. The shot went wild. Next day, everybody concerned could easily pronounce "Chihuahua," and could recognize one at sight. (Note: We didn't call it a dog.—Can't.)

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AERONCA

The Aeronautical Corporation of America recently sold one of its planes to a high school in Teaneck, New Jersey. The Aeronca will be used in the regular flying instruction offered by the high school to all students having an average of "C" in their regular school work.

The course in aeronautics is a development from an aviation club formed in the high school four years ago. The Teaneck School Board, as well as the State of New Jersey, consider aviation a "vocational art," the state bearing 50 per cent of the costs of instruction. The Aeronca was largely financed by the eighty-five students who are enrolled in the course, and was chosen by the instructor, Al Norwood, who tested over twenty different types of planes before making his choice.

Proven Ground

(Continued from page 13)

Foote's spectacular dive to earth, but sicker still of heart when the quartet of Dallas detectives hustled them off to police headquarters when they stepped out of the plane.

The two "big business" men hired Foote on the night of March 12th, and chartered a plane for a voyage into Louisiana. Demanding $100 cash deposit, Foote was presented with a personal check. Before they took off for Shreveport, the first stop, Foote turned the check over to his wife with instructions to find out whether or not the check was good, and to telegraph him the information to Shreveport.

That night, Foote and his two clients stopped at the St. Francis Hotel in Shreveport. Before departing for Monroe on the next day, the two men cashed a check at the hotel. Foote did not hear from his wife.

While in Monroe, Foote's suspicions began to grow, and remarked to his passengers that he would like to go to Texarkana to attend to some business he had there. They agreed, and Tuesday night was spent in Arkansas, where the check artists passed another check. Not having heard from his wife, Foote telephoned her and learned that she had wired him that the check was no good. He then told her to have the police at his hangar on Wednesday, for he was bringing his cargo of check-passers back to the home port.

Foote's two clients wanted to go to Alexandria on Wednesday morning. Taking off from Texarkana, Foote encircled the field and climbed to a high altitude. The passengers, believing themselves over the Louisiana swamps, looked down upon the swamp land of the Red River, on the Texas-Oklahoma border, as they sped toward Dallas.

Foote kept his high altitude over the route to Dallas, fearing that his passengers might be armed, and would, should they discover the ruse, force him to turn back. Riding directly over Love Field, Foote made his heroic plunge, landing directly in front of his hangar. Before the two men could gather their composure from the sudden and spectacular drop, the Dallas authorities had snapped on the handcuffs. "It's all in the day's work," observed Foote, laconically, charging off his experience to profit and loss.

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From Washington

(Continued from page 8)

To study details relating to the plane and engine: Col. J. Carroll Cone, representing the National Aeronautic Association, Chairman; Dr. George W. Lewis, National Advisory Committee for Aeronautics, and Major C. W. Howard, Army Air Corps.

To study the promotional phase: Capt. Al Williams, American Petroleum Institute, Chairman; Robert B. Renfro, Editor, The Sportsman Pilot; Fred L. Smith, National Association of State Aviation Officials, and Amelia Earhart Putnam.

Ewing Y. Mitchell, Assistant Secretary of Commerce, is ex-officio chairman of the *full* committee. A technical committee to advise with the full committee also was appointed. It is composed of the following: Luther Harris, Special Assistant to the Director of Aeronautics of the Department of Commerce, Chairman; John H. Geisse, Chief of the Manufacturing Inspection of Service, and Richard C. Gazley, Chief of the Engineering Section of the Aeronautics Branch.

These committees will hold many meetings in the near future and will report from time to time to the full committee.

COMES the later good word that a new *Inter-Departmental* Advisory Committee on Aviation has been set up.

The organization of the new Inter-Departmental Advisory Committee on Aviation has been completed, it was announced by the Honorable Daniel C. Roper, Secretary of Commerce and Chairman of the Committee.

Those attending the committee meeting were: General H. A. Drum, Deputy Chief of Staff, and General B. D. Foulois, Chief of Air Corps, representing the Army; Captain A. B. Cook, represesenting Admiral Ernest J. King, Chief, Bureau of Aeronautics, Navy Department; Eugene L. Vidal, Director of Aeronautics, Rex Martin and J. Carroll Cone, Assistant Directors of Aeronautics, representing the Commerce Department; Honorable Harllee Branch, Second Assistant Postmaster General, representing the Post Office Department; and Dr. W. M. W. Splawn of the Interstate Commerce Commission. Dr. Splawn was elected Vice-Chairman of the Committee, and J. Carroll Cone, Secretary. The permanent committee will have one voting representative from the Department of Commerce.

This committee was created following the President's approval of Secretary Roper's suggestion that, in view of the rapid development of aviation in several Federal branches, an inter-departmental study should be made for the purpose of establishing a uniform Federal aviation policy.

"This study will seek to ascertain to what extent co-ordination may be effected and greater co-ordinating efficiency attained in promoting and fostering aviation for military, commercial, and non-commercial private flying," Secretary Roper said.

The Secretary stated that there is so much interest in Congress in the matter of aviation as evidenced by congressional action, that it will be the plan of the committee to confer immediately and at frequent intervals with the chairmen of committees charged with consideration of appropriate bills, as well as other senators and congressmen interested, with a view to getting their suggestions and ideas relative to this important subject. Furthermore, the chairmen of proper congressional committees will be invited to act in an advisory capacity and sit in, if they will, at the meetings of the committee.

There is thus being planned for this committee a comprehensive program in the interest of the development of definite policies for aviation along all necessary lines.

In relation to the general study leading to the establishment of a uniform Federal aviation policy, the Secretary indicated that the study of the committee may inquire into the following problems: the development of private ownership in use of aircraft and the use of the commercial pilot and plane as a part of the national defense program, with suggestions for this development; a subvention policy and plan for air mail contracts, airways, equipment development, and experimental work; the co-ordination of research, development, and experimental work of the various government agencies, the air transport system, as to passenger and mail services; the development of airports for private and miscellaneous flying; the consideration of trans-Atlantic and international airways and services; new uses of aviation services in other government agencies, as well as commercially; ways and means of adequately protecting human lives in every way during the rapid development that is taking place in this service. The committee proposes to consider and utilize every facility in the course of its study that looks to the safeguarding of human lives.

It is felt that it will be possible to adapt aviation to the work of various governmental agencies, thus bringing about important savings in time and money, the Secretary pointed out. To illustrate, it seems possible to use airplanes for routine inspection in the Lighthouse Service of the Department of Commerce. A seaplane can be maintained and operated at a considerable less expense than a suitable boat. Obviously, more territory can be covered in a given length of time by the airplane, thereby affording more uniform inspection services and every proper economy. It is believed that there may be other government agencies and services which also may utilize aviation to bring about greater effectiveness and proper economies.

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IN THE MAY ISSUE!

Among the many regular features and special features reflecting the best in aeronautical thought and activity, Southwestern Aviation will carry a department on Models and Model Building written by one of the foremost model designers in the Southwest.

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Warner Monosport. Complete blind flying instruments less radio. Covering excellent, motor completely overhauled. Price $1250.00. R. Young, Fort Worth, Texas.

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Model A Waco, 170 Jacobs Engine, $2500.00. Model F Waco, B-5 Engine, $1800.00. Both in excellent condition. Hardy Young, Municipal Airport, Oklahoma City, Okla.

Parts: 125 gal. gasoline tank with dump valve and –40– hose; 1 American Eagle fuselage and empennage. Swallow Wing Left Lower; Travelair Wing Left Upper; American Eagle Wing Light Lower; American Eagle Wing Right Upper. R. C. Kirk, Grand Prairie Airport, Grand Prairie, Texas.

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Complete Warner or parts, any condition. Supply Division, Lambert Field, St. Louis, Mo.

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Transport Topics

(Continued from page 16)

V. A. Dorrell, one of the pioneer pilots of the Western Division who compiled an enviable record since he joined Pan American Airways early in 1930, has become chief pilot and acting operations manager of Aerovias Centrales, which operates over western and central Mexico from Nogales, Arizona, and El Paso, Texas, to Mexico City.

Bowen Air Lines' planes flew over one million passenger miles during the last six months of 1933, according to air transport statistics compiled by the Department of Commerce.

With the headquarters' base on Meacham Field, Fort Worth, Bowen Air Lines serve the territory between Fort Worth and Dallas to Oklahoma City and Tulsa, and to San Antonio and Houston. Fast Lockheed equipment is used exclusively.

There has never been a fatal accident during the entire four years of the company's operation in the Southwest.

Opportunity

Claude Seaton, Braniff Airways pilot, was just ready to climb into his ship at the Chicago airport to take-off on his regular run to Kansas City. The lone passenger, a woman, became nervous when she found she was to be the only passenger on the trip.

Seaton, in order to put her mind at ease, informed her that he would leave the door open that separates the pilot's cabin from the passenger compartment so that he could hear her if she desired to carry on a conversation.

They took off and landed in due time in Kansas City.

The passenger was whisked away in a taxi.

Two minutes later the pilot was beseiged with newsphotographers. "Where's Mae West?" they yelled.

"How should I know?" countered Seaton.

"You should; she came in on your plane!" they cried, starting off on a dead run.

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International Air Race Subcommittee Reports

The international race from London to Melbourne in October is intended to encourage speed and safety, according to a statement issued recently by the MacRobertson Air Race Subcommittee. An excerpt from the statement follows: "Purely freak or stunt aircraft that might be designed and built with the objective of covering the course in the shortest possible period would not readily assist in benefiting Australia in the way Sir MacPherson Robertson desires, since such machines require abnormal facilities beyond that in existence on the course; and secondly, that the danger of permitting the safety factor to loom unduly largely could debar aircraft, capable of making sustained long flights of anything up to 2,000 miles, and carrying very considerable pay loads—aircraft of the type that would be most suitable for the solution of Australia's geographical problem."

The committee is preparing a pamphlet which will contain complete information concerning the Races, and will be available for all pilots who intend to compete.

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